

Docket No. AUS9-2000-0257-US1

CLAIMS:

What is claimed is:

1. A method of communicating between one and a plurality of devices, comprising:
receiving, from [a device,] ^{38A} input to an application data stream;
receiving an output from the application data stream based on the received input and input from the plurality of other devices; and
providing the output to the ⁴ device and the plurality of devices [at substantially a same time,] ⁶ wherein only the output from the application data stream is shared by the device and the plurality of devices.
2. The method of claim 1, wherein output from the application data stream is shared by the device and the plurality of devices using a [data stream splitter.]
3. The method of claim 2, wherein the data stream splitter is dynamically constructed to provide shared access to the application data stream.
4. The method of claim 1, further comprising establishing a pseudo-terminal for the device.
5. The method of claim 4, wherein output received by the data stream splitter from the application data stream is sent to the pseudo-terminal and data received by the pseudo-terminal from the device is sent to the data stream splitter.

cycling through entries in a data stream splitter table to identify entries associated with the data stream splitter; and

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generating a data stream splitter to handle access to the application data stream if the application data stream is not already being handled by another data stream splitter; and

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10. The method of claim 8, wherein the data stream splitter manager is transparent to a user of the device.

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11. The method of claim 8, wherein the data stream splitter manager includes a graphical user interface.

12. The method of claim 1, further comprising storing
5 data from the data stream in a buffer, wherein when the device is first provided access to the data stream, the contents of the buffer are streamed to the device.

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10 13. A method of providing a device shared access to a data stream, comprising:
receiving a request for access to the data stream from a device;
adding an entry to a data stream splitter table for the device; and
15 providing the device access to the data stream via a data stream splitter in accordance with the entry in the data stream splitter table, wherein providing the device access includes providing output from the data stream to the device and sending input from the device to the data
20 stream, and wherein the output from the data stream is provided in a realtime manner based on the input from the device and input received from at least one other device.

25 14. A method of providing a plurality of devices shared access to a data stream, comprising:
receiving, from a device, input to the data stream;
generating data stream output based on the input from the device; and
supplying the data stream output to other devices of
30 the plurality of devices in a sequential manner wherein the input is non-blocking raw input that is received as the device generates the input on a character by

is, and wherein the data stream is a character by character basis

of providing shared access to a data stream, comprising:

through entries in a data stream splitter in the data stream splitter; a client device;

data from the data stream to the entries in each entry based on the entries; and

g data from the client device is based on the cycling through of the data from the client device to a data stream.

od of claim 15, wherein access is shared by a plurality of client devices in the data stream splitter to devices having full access to the

od of claim 15, wherein the client communication channel to the data stream from the data stream is shared by devices.

od of claim 15, wherein the sending is performed by a data stream

od of claim 18, wherein the data stream is dynamically constructed to provide

5 15. A method of providing shared access to a
bi-directional data stream, comprising:

[Cycling through entries in a data stream splitter table, each entry in the data stream splitter table identifying a client device;

10 sending data from the data stream to the client
device identified in each entry based on the cycling
through of the entries; and

receiving data from the client device identified in each entry, based on the cycling through of the entries, and sending the data from the client device to the bi-directional data stream.

16. The method of claim 15, wherein access to the data stream is shared by a plurality of client devices based on the entries in the data stream splitter table, each of the client devices having full access to the data stream.

17. The method of claim 15, wherein the client devices have a private communication channel to the data stream but the output from the data stream is shared by all of the client devices.

18. The method of claim 15, wherein the sending and receiving steps are performed by a data stream splitter.

19. The method of claim 18, wherein the data stream splitter is dynamically constructed to provide shared

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access to the data stream.

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access to the data stream from a device;
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stream splitter table for the device; and

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ram product of claim
a private communication
the output from the data
and other devices.

ram product of claim
instructions for dynamically
stream splitter to pro
eam.

ram product of claim
instructions for establish
the device.

ram product of claim
data stream splitter f
pseudo-terminal and c
from the device is s

ram product of claim
for providing the de
e:
ns for cycling throug
to identify entries a
er; and
s for cyclically prov
es access to the data
the data stream spli

ram product of claim
instructions for determin

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1. *Chlorophyll a* (Chl *a*)
 2. *Chlorophyll b* (Chl *b*)
 3. *Chlorophyll c* (Chl *c*)
 4. *Chlorophyll d* (Chl *d*)
 5. *Chlorophyll e* (Chl *e*)
 6. *Chlorophyll f* (Chl *f*)
 7. *Chlorophyll g* (Chl *g*)
 8. *Chlorophyll h* (Chl *h*)
 9. *Chlorophyll i* (Chl *i*)
 10. *Chlorophyll j* (Chl *j*)
 11. *Chlorophyll k* (Chl *k*)
 12. *Chlorophyll l* (Chl *l*)
 13. *Chlorophyll m* (Chl *m*)
 14. *Chlorophyll n* (Chl *n*)
 15. *Chlorophyll o* (Chl *o*)
 16. *Chlorophyll p* (Chl *p*)
 17. *Chlorophyll q* (Chl *q*)
 18. *Chlorophyll r* (Chl *r*)
 19. *Chlorophyll s* (Chl *s*)
 20. *Chlorophyll t* (Chl *t*)
 21. *Chlorophyll u* (Chl *u*)
 22. *Chlorophyll v* (Chl *v*)
 23. *Chlorophyll w* (Chl *w*)
 24. *Chlorophyll x* (Chl *x*)
 25. *Chlorophyll y* (Chl *y*)
 26. *Chlorophyll z* (Chl *z*)
 27. *Chlorophyll aa* (Chl *aa*)
 28. *Chlorophyll ab* (Chl *ab*)
 29. *Chlorophyll ac* (Chl *ac*)
 30. *Chlorophyll ad* (Chl *ad*)
 31. *Chlorophyll ae* (Chl *ae*)
 32. *Chlorophyll af* (Chl *af*)
 33. *Chlorophyll ag* (Chl *ag*)
 34. *Chlorophyll ah* (Chl *ah*)
 35. *Chlorophyll ai* (Chl *ai*)
 36. *Chlorophyll aj* (Chl *aj*)
 37. *Chlorophyll ak* (Chl *ak*)
 38. *Chlorophyll al* (Chl *al*)
 39. *Chlorophyll am* (Chl *am*)
 40. *Chlorophyll an* (Chl *an*)
 41. *Chlorophyll ao* (Chl *ao*)
 42. *Chlorophyll ap* (Chl *ap*)
 43. *Chlorophyll aq* (Chl *aq*)
 44. *Chlorophyll ar* (Chl *ar*)
 45. *Chlorophyll as* (Chl *as*)
 46. *Chlorophyll at* (Chl *at*)
 47. *Chlorophyll au* (Chl *au*)
 48. *Chlorophyll av* (Chl *av*)
 49. *Chlorophyll aw* (Chl *aw*)
 50. *Chlorophyll ax* (Chl *ax*)
 51. *Chlorophyll ay* (Chl *ay*)
 52. *Chlorophyll az* (Chl *az*)
 53. *Chlorophyll aza* (Chl *aza*)
 54. *Chlorophyll abz* (Chl *abz*)
 55. *Chlorophyll acz* (Chl *acz*)
 56. *Chlorophyll adz* (Chl *adz*)
 57. *Chlorophyll aez* (Chl *aez*)
 58. *Chlorophyll afz* (Chl *afz*)
 59. *Chlorophyll agz* (Chl *agz*)
 60. *Chlorophyll ahz* (Chl *ahz*)
 61. *Chlorophyll aiz* (Chl *aiz*)
 62. *Chlorophyll ajz* (Chl *ajz*)
 63. *Chlorophyll akz* (Chl *akz*)
 64. *Chlorophyll alz* (Chl *alz*)
 65. *Chlorophyll amz* (Chl *amz*)
 66. *Chlorophyll anz* (Chl *anz*)
 67. *Chlorophyll aoz* (Chl *aoz*)
 68. *Chlorophyll apz* (Chl *apz*)
 69. *Chlorophyll aqz* (Chl *aqz*)
 70. *Chlorophyll arz* (Chl *arz*)
 71. *Chlorophyll asz* (Chl *asz*)
 72. *Chlorophyll atz* (Chl *atz*)
 73. *Chlorophyll auz* (Chl *auz*)
 74. *Chlorophyll avz* (Chl *avz*)
 75. *Chlorophyll awz* (Chl *awz*)
 76. *Chlorophyll axz* (Chl *axz*)
 77. *Chlorophyll ayz* (Chl *ayz*)
 78. *Chlorophyll ayz* (Chl *ayz*)
 79. *Chlorophyll azz* (Chl *azz*)
 80. *Chlorophyll azaa* (Chl *aza*)
 81. *Chlorophyll abz* (Chl *abz*)
 82. *Chlorophyll acz* (Chl *acz*)
 83. *Chlorophyll adz* (Chl *adz*)
 84. *Chlorophyll aez* (Chl *aez*)
 85. *Chlorophyll afz* (Chl *afz*)
 86. *Chlorophyll agz* (Chl *agz*)
 87. *Chlorophyll ahz* (Chl *ahz*)
 88. *Chlorophyll aiz* (Chl *aiz*)
 89. *Chlorophyll ajz* (Chl *ajz*)
 90. *Chlorophyll akz* (Chl *akz*)
 91. *Chlorophyll alz* (Chl *alz*)
 92. *Chlorophyll amz* (Chl *amz*)
 93. *Chlorophyll anz* (Chl *anz*)
 94. *Chlorophyll aoz* (Chl *aoz*)
 95. *Chlorophyll apz* (Chl *apz*)
 96. *Chlorophyll aqz* (Chl *aqz*)
 97. *Chlorophyll arz* (Chl *arz*)
 98. *Chlorophyll asz* (Chl *asz*)
 99. *Chlorophyll atz* (Chl *atz*)
 100. *Chlorophyll auz* (Chl *auz*)
 101. *Chlorophyll avz* (Chl *avz*)
 102. *Chlorophyll awz* (Chl *awz*)
 103. *Chlorophyll axz* (Chl *axz*)
 104. *Chlorophyll ayz* (Chl *ayz*)
 105. *Chlorophyll ayz* (Chl *ayz*)
 106. *Chlorophyll azz* (Chl *azz*)
 107. *Chlorophyll azaa* (Chl *aza*)
 108. *Chlorophyll abz* (Chl *abz*)
 109. *Chlorophyll acz* (Chl *acz*)
 110. *Chlorophyll adz* (Chl *adz*)
 111. *Chlorophyll aez* (Chl *aez*)
 112. *Chlorophyll afz* (Chl *afz*)
 113. *Chlorophyll agz* (Chl *agz*)
 114. *Chlorophyll ahz* (Chl *ahz*)
 115. *Chlorophyll aiz* (Chl *aiz*)
 116. *Chlorophyll ajz* (Chl *ajz*)
 117. *Chlorophyll akz* (Chl *akz*)
 118. *Chlorophyll alz* (Chl *alz*)
 119. *Chlorophyll amz* (Chl *amz*)
 120. *Chlorophyll anz* (Chl *anz*)
 121. *Chlorophyll aoz* (Chl *aoz*)
 122. *Chlorophyll apz* (Chl *apz*)
 123. *Chlorophyll aqz* (Chl *aqz*)
 124. *Chlorophyll arz* (Chl *arz*)
 125. *Chlorophyll asz* (Chl *asz*)
 126. *Chlorophyll atz* (Chl *atz*)
 127. *Chlorophyll auz* (Chl *auz*)
 128. *Chlorophyll avz* (Chl *avz*)
 129. *Chlorophyll awz* (Chl *awz*)
 130. *Chlorophyll axz* (Chl *axz*)
 131. *Chlorophyll ayz* (Chl *ayz*)
 132. *Chlorophyll ayz* (Chl *ayz*)
 133.

27. The computer program product of claim 23, further comprising fourth instructions for establishing a pseudo-terminal for the device.

28. The computer program product of claim 27, wherein data received by the data stream splitter from the data stream is sent to the pseudo-terminal and data received by the pseudo-terminal from the device is sent to the data stream splitter.

29. The computer program product of claim 23, wherein the third instructions for providing the device access to the data stream include:

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30. The computer program product of claim 23, further comprising fourth instructions for determining if access

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to the data stream is being handled by a data stream splitter, wherein the second instructions for adding an entry to a data stream splitter table for the device include instructions for adding the entry to a data stream splitter table associated with the data stream splitter.

31. The computer program product of claim 23, wherein the first, second and third instructions are implemented by a data stream splitter manager.

32. The computer program product of claim 31, further comprising fourth instructions for forking a copy of the data stream splitter manager to handle the access to the data stream for that device, when the data stream splitter manager receives the request from the device.

33. The computer program product of claim 23, further comprising:
fourth instructions for storing data from the data stream in a buffer; and
fifth instructions for streaming the contents of the buffer to the device when the device is first provided access to the data stream.

34. An apparatus for providing a device shared access to a data stream, comprising:

a data [stream splitter] and
a [data stream splitter manager coupled to the data stream splitter], wherein the data stream splitter manager receives a request for access to the data stream from a device, adds an entry to a data stream splitter table for

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the device, and provides the device access to the data stream via the data stream splitter in accordance with the entry in the data stream splitter table.

- 5 35. The apparatus of claim 34, wherein access to the data stream is shared with other devices, each of the device and the other devices having full access to the data stream.
- 10 36. The apparatus of claim 34, wherein the data stream splitter provides the device a private communication channel to the data stream but the output from the data stream is shared by the device and other devices.
- 15 37. The apparatus of claim 34, wherein the data stream splitter is dynamically constructed by the data stream splitter manager to provide shared access to the data stream.
- 20 38. The apparatus of claim 34, wherein the data stream splitter manager establishes a pseudo-terminal for the device.
- 25 39. The apparatus of claim 38, wherein data received by the data stream splitter from the data stream is sent to the pseudo-terminal and data received by the pseudo-terminal from the device is sent to the data stream splitter.
- 30 40. The apparatus of claim 34, wherein the data stream splitter manager provides the device access to the data stream by:

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the data stream split
ociated with the data
iding the device and
stream based on the cy
tter table.

f claim 34, wherein t
ermines if access to
a data stream splitte
data stream splitter
ng the entry to a dat
lated with the data s

f claim 34, wherein,
ger receives the requ
eam splitter manager
access to the data s

f claim 34, wherein t
transparent to a user

f claim 34, wherein t
cludes a graphical use

f claim 34, wherein t
n-blocking raw input/

f claim 34, further c
from the data stream

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46. The apparatus of claim 34, further comprising a buffer, wherein data from the data stream is stored in

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the buffer, and wherein when the device is first provided access to the data stream, the contents of the buffer are streamed to the device.

5 47. A method of communicating between one and a plurality of devices, comprising: *SB* *NAB*

receiving from at least two of the plurality of devices, input to an application;

10 combining the input from the at least two of the plurality of devices to produce combined output; and
[simultaneously outputting the combined output at each of the plurality of devices.]

15 48. A method of communicating between one and a plurality of devices, comprising: *SPA*

receiving, from a device, input to an application;

receiving an output from the application based on the received input and input from one or more of the plurality of other devices; and

20 [providing the output to each of the plurality of devices at substantially a same time.]

49. A method of displaying an output display from an *SB* application shared by a plurality of devices, comprising:

25 receiving input from at least two of the plurality of devices;

combining the input from the at least two of the plurality of devices; and

30 [displaying, substantially simultaneously, an output display based on the combined input from the at least two of the plurality of devices at the at least two of the plurality of devices.]

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